32 Years Ago at MSC

Light pad damage

No-holds Gemini VII launch dual mission's perfect start

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The Gemini VII/VI long-duration and rendezvous mission was well on its way to success December 4 when the Gemini VII lifted off at 1:30 p.m. CST following a perfect no-holds countdown.

Smoke from the Gemini launch vehicle's engines had not fully cleared away before damage assessment teams were inspecting Launch Complex 19 for pad damage assessment teams were inspecting Launch Complex 19 for pad damage to determine how soon Gemini VI and its launch vehicle could be reerected on the pad for lift-off next Monday. Pad damage was exceptionally light and both stages of the Gemini VI launch vehicle were trundled out of the hangar and out to the pad.

By 2:30 a.m. the following morning, both stages had been erected; by noon, the Gemini VI spacecraft had been mated to the launch vehicle and pre-launch checkouts and tests were begun.

Gemini VII's crew, Frank Borman and Jim Lovell quickly settled down for the long 14-day haul after a half-hour period of station-keeping with the second-stage booster. Both men slept approximately eight hours the first night and 10 hours the second night (by Houston time reference). Radio silence was maintained during these periods by stations in the Manned Space Network and by Mission Control Center-Houston.

Telemetry readouts, activated by ground radio commands, kept tabs on the condition of the spacecraft systems and the astronauts' physical condition.

An early drop in fuel cell cryogenic oxygen pressure, reminiscent of the early hours of Gemini V, was corrected when the crew of Gemini VII elected to open the cross-over valve which allows the supply of breathing oxygen to boost pressure in the fuel cell reactant oxygen tank.

Gemini VII was inserted into orbit with a perigee of 82.7 nm and an apogee of 177.1 nm and inclined 28.89 degrees to the equator. (Planned 87/183, 28.87 degrees).

A 59 ft/sec posigrade OAMS burn at 3 hours 45 minutes elapsed time raised perigee to 120 nm. The next maneuver was made yesterday circularizing the orbit and proper phasing with the Gemini VI launch.

The first several days of the Gemini VII mission have been spent in conducting experiments. Toward the end of the fifth day in orbit, after 77 revolutions, the crew of Gemini VII will use the spacecraft's OAMS thrusters to adjust the orbit to about 161 nm circular to optimize launch conditions for Gemini VI and for subsequent rendezvous of the two spacecraft.

Gemini VI spacecraft is scheduled for launch Sunday, at 8:50 a.m. CST contingent upon testing and recheckout of the spacecraft and launch vehicle. Launch of Gemini VI should nominally occur at 7 days 19 hours and 20 minutes Gemini VII elapsed time and at the beginning of Gemini VII's 119th revolution.

Rendezvous and "formation flying" of the two spacecraft should begin in the fourth orbit at about 5 hours 40 minutes Gemini VI elapsed time.

Formation flight, or station keeping, will continue for two and one half revolutions. Gemini VI reentry and landing in the West Atlantic recovery zone will be at 46 hours 45 minutes elapsed time at about 7:20 a.m. CST

Gemini VII will continue its flight for a total elapsed time of about 329 hours 30 minutes, landing in the West Atlantic zone at 7 a.m. CST two days after Gemini VI recovery.

The prime mission of Gemini VII is 14 days duration, regardless of whether or not the Gemini VI mission is launched within the same time frame.

All the medical experiments that have been developed for the Gemini program are being flown on the Gemini VII mission.

These medical experiments are: M-1, Cardiovascular Reflex Conditioning; M-3, In-Flight Exerciser; M-4, In-Flight Phonocardiogram; M-5, Bioassays of Body Fluids; M-6, X-Ray Densitometry; M-7, Calcium Balance Study; M-8, In-Flight Sleep Analysis, and M-9, Vestibular Effects.

The Cardiovascular Effects of Spaceflight, once classified as Experiment M-2, is now a routine pre- and post-flight medical procedure involving tilt-table tests...

By contrast, the two-day Gemini VI mission will carry no medical experiments. As in all manned missions, telemetry readouts of the Gemini VI crew physical condition will be watched as a matter of operational routine by medical monitors at stations in the Manned Space Flight Network and by flight surgeons in Mission Control.

In addition to the eight medical experiments carried aboard Gemini VII, nine scientific experiments are being conducted in the mission. These experiments are:

D-4/D-7, Celestial, Space and Terrestrial Object Radiometry … D-5, Star Occultation Measurement … D-9, Simple Navigation … S-8/D-13, Visual Acuity/Astronaut Visibility … S-2, Synoptic Terrain Photography … S-6, Synoptic Weather Photography … MSC-2/MSC-3, Proton Electron Spectrometer and Tri-Axis Flux Gate Magnetometer … MSC-4, Optical Communications … MSC-12, Landmark Contrast ….

Two of the Scientific experiments carried aboard Gemini VII will also be carried on Gemini VI: S-5, Synoptic Terrain Photography and S-6, Synoptic Weather Photography.

The third and last Gemini VI experiment is D-8, Radiation Experiment, which measures the radiation level and radiation flux inside the spacecraft and measures radiation level intensity especially in the crew vicinity.

NASA Photos 65-H-1853 and S65-62589

Above: Spacecraft Gemini VII lifts off from Launch Complex 19 at 1:30 p.m. CST December 4 with crewmen Frank Borman and Jim Lovell aboard following a perfect no-holds countdown for a two-weeks stay in orbit and a planned rendezvous with the Gemini VI spacecraft. Below: NASA and Department of Defense recovery coordinators in the Recovery Control Room at Mission Control Center-Houston focus their attention toward a projected TV image of the Gemini VI launch.

Gilruth Center News

Hours: The Gilruth Center is open from 6:30 a.m.-10 p.m. Monday-Thursday, 6:30 a.m.-9 p.m. Friday, and 9 a.m.-2 p.m. Saturday.

Sign up policy: All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a yellow Gilruth or weight room badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.

Gilruth badges: Required for use of the Gilruth Center. Employees, spouses, eligible dependents, NASA retirees and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 9 a.m.-2 p.m. Saturdays. Cost is $10. Dependents must be between 16 and 23 years old.

Hatha Yoga: A stress relieving, stretching and breathing exercise routine to unite body, mind and spirit. Classes meet from 5:30-6:30 p.m. Thursdays. Cost is $40 for eight weeks.

Nutrition intervention program: A six-week program to learn more about the role diet and nutrition play in health, including lectures, private consultations with a dietitian and blood analysis. Program is open to all employees, contractors and spouses. For more information call Tammie Shaw at x32980.

Defensive driving: One-day course is offered once a month. Pre-registration required. Cost is $25. Call for next available class.

Stamp club: Meets at 7 p.m. every second and fourth Monday in Rm. 216.

Weight safety: Required course for employees wishing to use the weight room will be offered from 8-9:30 p.m. Call for next available class. Pre-registration is required. Cost is $5. Annual weight room use fee is $90. Additional family members are $50.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is $24 for eight weeks.

Aikido: Introductory martial arts class meets from 5:15-6:15 p.m. Tuesday and Wednesday. Cost is $35 per month. New classes begin the first of each month.

Step/Bench aerobics: Classes meet from 5:15-6:15 p.m. Monday, Tuesdays and Thursdays. Cost is $32 for eight weeks. Kristen Taragzewski, instructor.

Ballroom dancing: Beginner classes meet from 7-8:15 p.m. Thursdays. Intermediate and advanced classes meet from 8:15-9:30 p.m. Cost is $60 per couple.

Country and western dancing: Beginner class meets 7-8:30 p.m. Monday. Advanced class (must know basic steps to all dances) meets 8:30-10 p.m. Monday. Cost is $20 per couple.

Fitness program: Health Related Fitness Program includes a medical screening examination and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

Gilruth Home Page: Check out all activities at the Gilruth online at: http://www4.jsc.nasa.gov/ah/exceaa/Gilruth/Gilruth.htm

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday and in the Bldg. 3 Exchange Store from 7 a.m.-4 p.m. Monday - Friday. For more information call x35350 or x30990.

EAA Christmas Dinner/Dance: Dec. 13, $25 per person

EAA New Year's Eve Dinner/Dance: Dec. 31, $27.50 per person

Moody Gardens: Tickets are $9.50 for two of four events

Space Center Houston: Adult $8.95; children (4-11) $6.40 JSC civil service employees free.

Movie discounts: General Cinema, $5.25; AMC Theater, $4.50; Sony Loew's Theater, $4.75

Shirts: JSC logo T-shirt, $10, polo style, $23; International Space Station logo golf shirts, $26 and $28

Stamps: Book of 20, $6.40

1998 Franklin Planner replacement refill orders being taken now.

Sweetwater Pecans: Orders are being taken now; cost is $5.75 per pound.

Metro passes: Tokens and value cards available.

Book available: *Suddenly Tomorrow Came: A History of Johnson Space Center.*

Upcoming events: EAA Spring Break Ireland Trip: March 21-29, $1,399 per person, double occupancy ($200 deposit per person, final payment due Jan. 21).

Roundup Deadlines

The Space News Roundup is published every other Friday. Story ideas should be submitted as far in advance as possible, but no later than two weeks prior to the date of publication.

The deadline for Dates & Data calendar items is three weeks prior to the date of publication.

Stories and ideas should be submitted to Kelly Humphries in Bldg. 2, Rm. 180, or via e-mail to kelly.o.humphries1@jsc.nasa.gov